New synonymsies of chewing lice (Phthiraptera: Amblycera, Ischnocera) described from the Falconiformes (Aves)

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Synonymsies, chewing lice, Phthiraptera, Falconiformes


INTRODUCTION

In the past few years, we have become aware of a number of synonymsies among chewing lice collected from falconiform hosts. In order to facilitate the appropriate application of these names, we are proposing these synonymsies herewith. A number of these synonymsies are the result of descriptions of taxa based primarily on the a priori assumption by the authors of a high degree of host-louse specificity rather than on meaningful morphological differences. This practice, when incorporated into checklists of host-louse associations, overstates the number of louse taxa among related hosts. These checklists then are used as evidence to support the assumption of high host-louse specificity. Such circularity only serves to complicate the true understanding of host-louse specificity and coevolution. Descriptions of new louse taxa must be based on meaningful morphological details and supported by comparisons derived from a thorough study of related taxa. Any descriptions failing to do this should be regarded as suspect. Our classification of the avian hosts within the order Falconiformes follows the approach given by Howard & Moore (1991).
SYNONYMIES

Suborder Amblycera
Family Menoponidae

Genus *Colpocephalum* Nitzsch, 1818

*Colpocephalum* Nitzsch, 1818: 298. Type species: *Colpocephalum zebra* Burmeister, 1838.

The new genus *Falcocephalum* was described as monotypical for the new species, *F. pricei*, based on 2 males and 1 female supposedly off a falconet, *Microhierax e. erythrogenys* (Vigors), from the Philippines. Tendeiro (1989b) states that these type specimens are deposited in the “British Museum (Natural History)”, but they cannot be located there and Dr. Luís F. Mendes, Centro de Zoologia, Lisbon, informs us that they are not in their collection either. However, even though these lice are apparently lost, it is obvious from the descriptive details of the lice that they are actually from a cuckoo and are consistent with typical *Colpocephalum* previously known from the Cuculiformes. Enough chaetotaxy differences are apparent to support recognition of the species *Colpocephalum pricei* (Tendeiro, 1989), comb. n., but a separate genus is inappropriate and unnecessary.

*Colpocephalum turbinatum* Denny, 1842

*Colpocephalum turbinatum* Denny, 1842: 198. Type host: *Columba livia* Gmelin.

Cicchino (1982) erred in considering *C. wernecki* a nomen nudum and further compounded this error by placing it as “…un sinónimo absoluto de *C. cristata* Price, 1968”. Orfila (1959) clearly proposed *C. wernecki* as a nomen novum for *C. caudatum longipes* Piaget, 1885. Because this latter name is now a junior synonym of *C. turbinatum* (see Price & Beer, 1963: 755), *C. wernecki* also falls into synonymy with *C. turbinatum*.

*Colpocephalum nanum* Piaget, 1890

*Colpocephalum nanum* Piaget, 1890: 257. Type host: *Larus canus* L. – in error.

In their extensive study of the *Colpocephalum* from falconiform hosts, Price & Beer (1963) identified as *C. nanum* the samples from *Buteo buteo* and from 5 other species of *Buteo*, as well as those from 3 species of *Accipiter*. We have studied the male holotype, a male and a female paratypes, and a female non-type of *Colpocephalum meridionale* without finding any reliable feature to distinguish them from *C. nanum*. The description and the 3 figures of *C. meridionale* in Pérez-Jiménez et al. (1988) are accurate but fail to give any diagnostic character which clearly separates it from *C. nanum*. The deviations in abdominal setal counts, as referred to by these authors, also fall within the ranges for *C. nanum*. Therefore, we are confident that *C. meridionale* is no more than a junior synonym of *C. nanum*.

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Colpocephalum trachelioti Price & Beer, 1963

Colpocephalum trachelioti Price & Beer, 1963: 748. Type host: Aegyptius tracheliotus (Forster).

Our study of the holotype male and allotype female of C. aegypti has shown that they are conspecific with C. trachelioti. Both lice, in spite of their poor condition and missing many setae, identify as the latter species using the keys in Price & Beer (1963). Other morphological details further confirm this identification. At the time of the description of C. trachelioti, Price & Beer (1963) named its type host as Torgos tracheliotus; and another host as Trigoniceps occipitalis (Burchell). However, a more recent classification of the Falconiformes by Howard & Moore (1991) lists these hosts as Aegyptius tracheliotus and A. occipitalis, immediately following A. monachus. The conspecificity of Colpocephalum lice from 3 hosts in the genus Aegyptius supports the placement of these host species together in the same genus and would lead us to predict that C. trachelioti may eventually be found on the fourth member, A. calvus (Scopoli). Only further collecting will show whether we are correct.

Colpocephalum ateri Price & Beer, 1964


Tendeiro & Mendes (1994) described C. sinuosum from a series of 13 males and 5 females taken off the type host in Brazil (Meinertzhagen #10418). They stated that their material was very close to that of C. ibicter (Eichler, 1954) described from Daptrius americanus (Boddart) from Peru. However, since they had no material of C. ibicter for comparative purposes, they based the separation on reference to what Price & Beer (1963) had tentatively redescribed as "C. ?ibicter" from a short series of lice believed to represent this species off D. ater from Brazil.

A year after publishing the description of C. ?ibicter, Price & Beer (1964) reported that they had obtained Eichler's type series of 9 females and 5 males of C. ibicter. They had determined that it was a species quite distinct from what they had published as C. ?ibicter, so they then described the new species, C. ater, for their previously incorrectly identified lice. Unfortunately, Tendeiro & Mendes (1994) had overlooked this later paper and had been unaware of the action by Price & Beer (1964). Upon examination of the entire type series of C. sinuosum, it is apparent that these lice are conspecific with C. ateri.

In addition to the type material of C. sinuosum referred to above, Tendeiro & Mendes (1994) also included as paratypes 2 females from another collection off a "Berlin Mus." specimen of M. c. chimachima from Brazil (Meinertzhagen #15737). Our study of these lice has shown that there are 2 different species represented, both being quite distinct from C. sinuosum. One of these is C. maculatum Piaget, 1880, a species previously recorded from M. chimachima by Price & Beer (1963: 742); the other is C. polybori Rudow, 1869, a species reported from Polyborus cheriwayi Jacquin [≡ P. plancus (Miller)] by Price & Beer (1963: 741). Obviously, neither of these specimens should be considered as a representative of C. sinuosum.
Colpocephalum maculatum Piaget, 1880

Colpocephalum maculatum Piaget, 1880: 516. Type host: Polyborus plancus (Miller).

Price & Beer (1963) identified the Colpocephalum material from several different host taxa as C. maculatum, including 4 females and 1 male off Milvago chimango from Argentina and Chile. We have studied the male holotype of C. chimangoi from Paraguay and have concluded that it is consistent with previous material we have seen from M. chimango and is, therefore, conspecific with C. maculatum. In addition to the male holotype, Tendeiro & Mendes (1994) studied 2 females from Chile, these undoubtedly being the same specimens that Price & Beer (1963) had studied in their revision of Colpocephalum from the Falconiformes.

Colpocephalum holzenthali Clayton & Price, 1989

Colpocephalum holzenthali Clayton & Price, 1989: 505. Type host: Micrastur ruficollis zonothorax (Cabanis).
Colpocephalum violanii Tendeiro & Mendes, 1994: 140. Type host: Micrastur ruficollis (Vieillot). New synonymy.

The description 5 years earlier of C. holzenthali apparently was overlooked by Tendeiro & Mendes (1994) when they described C. violanii from a single male louse taken off M. ruficollis in Ecuador. An examination of the holotype male of C. violanii shows excellent agreement with C. holzenthali and there is no reason to consider these taxa as anything but a single species.

Colpocephalum zeraii Ansari, 1955

Colpocephalum zeraii Ansari, 1955b: 52. Type host: Falco jugger Gray.

Tendeiro (1988) described C. z. biarmicus from a single female collected off the type host in Cape Colony, South Africa, in June 1909. We have studied this holotype and conclude that there is no reason for considering it as a taxon separate from the nominate species. The separation into 2 subspecies was based essentially on apparent differences in certain dimensions and tergal chaetotaxy of the posterior abdominal segment. The smaller total length of C. z. biarmicus is a function of a telescoping of the holotype body and the other dimensions are very close to or within the range for C. zeraii. The chaetotaxy of only a single specimen does not support subspecific separation either. It is inconceivable to us how a new louse taxon, even at the subspecific level, can be based only on a single specimen of this quality and on quite dubious character differences.

Colpocephalum subzeraii Tendeiro, 1988

Colpocephalum subzeraii Tendeiro, 1988: 88. Type host: Falco naumann Fleischer.
We have studied the holotype male and allotype female of *C. subzerafae* and agree with Tendeiro (1988) that the material Price & Beer (1963) had considered as the single species *C. zerafae* does likely include 2 different species. An examination of lice from more hosts would be desirable to further substantiate the separation of these 2 species of *Colpocephalum* from falcons.

However, the description by Tendeiro (1988) of the subspecies *C. s. exiguum* is without justification. It is based only on a single male off the type host collected in Somaliland in February 1949. The separation of the 2 subspecies is superficial and based essentially on the smaller dimensions of *C. s. exiguum*. However, we have studied this holotype male and its smaller total length is undoubtedly associated with a telescoping of the abdomen. There is nothing of significance that will separate it from the nominate subspecies. Furthermore, it is amazing that this holotype, the only specimen representing the new subspecies, is found on a slide mounted together with 17 lice correctly identified as typical *C. zerafae*. Tendeiro (1988) offers several explanations as to how this single louse may have gotten there, but we remain skeptical about it and in total disagreement of its merit recognition as a distinct taxon.

*Nosopon milvus* Tendeiro, 1959

*Nosopon milvus* Tendeiro, 1959: 205. Type host: *Milvus migrans migrans* (Boddaert) [also recorded from *Milvus migrans parasitus* (Daudin)].


It is difficult to understand the reasons behind the description by Tendeiro (1993) of *N. aduncum* as a species separate from *N. milvus*. A comparison of his descriptions and the fact that these 2 *Nosopon* originated from the same host species and subspecies make the conspecificity obvious. Tendeiro (1993) published excellent photographs taken from the type specimens of both *N. milvus* and *N. aduncum* showing the relevant features of both sexes, in particular the male genitalia and the female genital chamber structures. A careful comparison of these photographs leaves no doubt that all of these lice belong to only the single species, *N. milvus*. In his text description of the male head of *N. aduncum*, in addition to several other features, Tendeiro mentions the ventral spinous postpalpal processes as being close together on the midline (see his photograph 23 of male head), but in our opinion this is a result of the pressure imposed on the specimen at the time it was slide-mounted. The latter is confirmed by the unusually wide femora of the same male shown whole in Tendeiro’s photograph 24. Other apparent differences between the heads of *N. milvus* and *N. aduncum* as shown in Tendeiro’s photographs 18 and 23, respectively, are also due to artifacts of preparation.

*Nosopon lucidum* (Rudow, 1869)

*Menopon lucidum* Rudow, 1869: 402. Type host: *Falco vespertinus* L.


Our study of the holotype male and allotype female of *N. l. pyargus* has convinced us that they have no significant morphological differences from the nominate subspecies. The only features given by Tendeiro (1959) to separate *N. l. pyargus* from *N. l. lucidum* are several aspects of head shape that we consider to be artifacts. We have utilized a number
of other Nosopon specimens from both Circus pygargus and other Falco hosts to support this synonymy.

Family Laemobothriidae

Laemobothrion vulturis (F., 1775)

Pediculus vulturis F., 1775: 806. Type host: Gyps bengalensis (Gmelin).

The name L. gigas was overlooked by Nelson & Price (1965) when they revised the species of falconiform Laemobothrion. These workers, studying 1 female and 4 males from Neophron percnopterus from Israel and Cape Verde Island, determined that this host carries only a single species of this genus, L. vulturis. With only 4 species of Laemobothrion distributed among falconiform hosts, there is now no reason not to consider L. gigas as a junior synonym of L. vulturis. Unfortunately, as reported by Clay & Hopkins (1960), there has been great difficulty in establishing the identity of many of the louse taxa described by Nitzsch. His practice of basing his descriptions on specimens held by earlier workers and the destruction of much of his collection in Halle have only compounded the problem. With no likelihood of ever knowing for certain what specimens Nitzsch may have based the description of L. gigas on, we have made the most logical decision from our experience on the genus Laemobothrion, placing this name as a junior synonym of L. vulturis.

Nelson & Price (1965) reported L. vulturis from 24 falconiform host species, including 2 female and 2 male lice from Gypaetus barbatus from Ethiopia, Arabia, and India. We agree with Nelson & Price (1965) and recognize only 4 species of Laemobothrion from the Falconiformes. Despite their wide ranges of hosts, there is no indication of a meaningful division of these 4 species into subspecies based on morphology. We have studied 2 male and female pairs of paratypes of L. v. danecki and conclude that there are no means of recognizing them as a distinct subspecies. The description of L. v. danecki is yet another instance of an author being so preoccupied with host-louse specificity that a subspecies was named solely on the basis of its host being different from the type host of the nominate taxon.

Laemobothrion tinnunculi (L., 1758)

Pediculus tinnunculi L., 1758: 612. Type host: Falco tinnunculus L.

Nelson & Price (1965) identified 2 males and 2 females of Laemobothrion off Buteo buteo from Israel, together with many specimens off other Buteo species, as L. maximum (Scopoli, 1763). However, our study of the holotype and paratype males of L. iberum and a close examination of the accurate figures given by Pérez-Jiménez et al. (1988) in the original description show without doubt that they are L. tinnunculi. This species of Laemobothrion appears to be restricted in its known host distribution to birds of the host
genus *Falco*, having been reported from at least 14 host species (Nelson & Price, 1965; Pilgrim & Palma, 1982).

In their “Material and Methods”, Pérez-Jiménez et al. (1988) state that the lice used for their research were found on captive specimens of *Buteo buteo buteo* from a recuperation center. In our opinion, it is highly likely that the types of *L. iberum* (=*L. tinnunculi*) were accidentally transferred from a specimen of an undetermined species of *Falco* onto a *Buteo b. buteo* bird by sharing the same cage or during handling by their caregivers.

Suborder Ischnocera
Family Philopteridae

*Craspedorrhynchus ranjhae* Ansari, 1955

*Craspedorrhynchus ranjhae* Ansari, 1955a: 49. Type host: *Hieraetus pennatus* (Gmelin).

Gállego et al. (1987) opted to describe the *Craspedorrhynchus* material collected from *Hieraetus pennatus* in Spain as the new species *C. pennati*, in spite of the fact that Ansari had described *C. ranjhae* in 1955 from the same host species in Pakistan. Our examination of the holotype male and the allotype female of *C. pennati* shows that the text description and the figures given by Gállego et al. are detailed and accurate. However, these authors based their new species on apparent differences between their specimens and the description plus drawings published by Ansari (1956). In our opinion, the morphological characters listed by Gállego et al. as clearly distinct between *C. pennati* and *C. ranjhae* are not significant to justify naming a new species. In particular, they failed to compare in detail the intricate morphology of the male genitalia, which are the most reliable features to separate species within the genus *Craspedorrhynchus*. Furthermore, there is no record of 2 different species of *Craspedorrhynchus* parasitizing the same host species. We conclude that *C. pennati* is no more than a junior synonym of *C. ranjhae*.

*Degeeriella rufa* (Burmeister, 1838)

*Nirmus rufa* Burmeister, 1838: 430. Type host: *Falco tinnunculus* L.

The proposal of *D. carrikeri* as a nomen novum for *D. nitzschi* was an unnecessary activity, since Clay (1958) already considered the latter a junior synonym of *D. rufa*, which is a widely distributed species occurring on at least 24 species of the host genus *Falco*.

*Degeeriella mookjerjei* Clay, 1957


Our study of the holotype male and 5 paratype males of *D. m. pilgrimi*, as well as our comparing them against a male paratype of *D. mookjerjei* sensu stricto, has disclosed no significant differences sufficient to justify its recognition as a separate subspecies from the
nominate form. The facts that the type host is unknown, other than some unidentified eagle, and that no females are available further confuse the matter.

*Falcoipereus assessor* (Giebel, 1874)

*Lipeurus assessor* Giebel, 1874: 207. Type host: *Vultur grifus* L.

Zlotorzycka (1963) recognized 2 species of *Falcoipeurus* (as *Trollipeurus*) from *Vultur grifus*, distinguishing them mainly by differences in dimensions and in head outlines. We consider these differences to fall well within the range of variability of a single species, *F. assessor*. Furthermore, in our experience, the outline of many louse heads becomes distorted during the slide mounting process (see Price & Emerson, 1966: 433) and we are confident that the differences between figures 2 and 7 in Zlotorzycka (1963) represent yet another example of such distortions. Our study of 1 female paraotype of *F. kleinmachnowensis* has further confirmed our opinion that *Vultur grifus* harbors only 1 species of *Falcoipeurus*, as is the case with all other falconiform hosts parasitized by this louse genus.

**ACKNOWLEDGEMENTS.** We thank the following individuals for so generously lending us type materials and other louse specimens so critical to our correct interpretation of the names we have dealt with: C.H.C. Lyal, The Natural History Museum, London, England; L.P. Mendes, Centro de Zoologia, Lisbon, Portugal; J. Deckert, Museum für Naturkunde der Humboldt-Universität, Berlin, Germany; M.P. Martín-Mateo, Museo Nacional de Ciencias Naturales, Madrid, Spain; and J.M. Pérez-Jiménez, Universidad de Jaén, Jaén, Spain.

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